Sterilization of Catgut by Heat.

Reference has already been made to this method of sterilizing catgut, which was described by **Prof. Reverdin**. In the *Revue Médicale de la Suisse Romande*, Sept. 24, 1888, he publishes a further account of it, with the result of the examination of samples of catgut by **Dr. V. Bovet**, who confirms its aseptic character. Specimens of catgut were placed in flasks containing peptonized bouillon, glycerin, sugar, etc., which were submitted to different temperatures; the catgut remained intact and had caused no reaction at the end of six weeks, while catgut which had been soaked in a disinfectant solution for twelve days gave a cloudiness to the bouillon in thirty-six hours.

Clinically it is found scarcely to irritate the tissues, and the secretion of pus is slight. Further, the catgut which has been sterilized in this way is strong and not too easily absorbed, and thus possesses other desirable qualities.

MEDICINE.

UNDER THE CHARGE OF

WILLIAM OSLER, M.D., F.R.C.P. Lond.,

PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA.

Assisted by

J. P. Crozer Griffith, M.D.,
ASSISTANT PHYSICIAN TO THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

Walter Mendelson, M.D.,
PHYSICIAN TO THE ROOSEVELT HOSPITAL, OUT-DOOR DEPARTMENT, NEW YORK.

Local Treatment of Cerebral Meningitis.

Mosler (*Deutsch. med. Wochenschr.*, 1888, 621) has during several years employed blisters to the scalp in meningitis with good results. In one very threatening case of meningitis accompanying acute rheumatism, in which many other means of treatment had been employed in vain, a cure followed with suprising promptness the application of a large blister over the shorn scalp, and two behind the ears. Experiments on animals have convinced him that, to be effectual, the blisters must be large, and the treatment persisted in. The author also reported a case of chronic hydrocephalus in which he repeatedly performed aspiration, followed by a compressory bandage to the head. As is usual in such cases, the procedure was not followed by any permanently good results, and on one occasion serious symptoms were induced by it.

Pernicious Anæmia.

Wm. Hunter (*Lancet*, October 6, 1888, 658) summarizes the results of a study of the nature of pernicious anæmia as follows: 1. Pernicious anæmia is to be regarded as a special disease, both clinically and pathologically. 2. Its essential pathological feature is an excessive destruction of blood. 3. The most constant anatomical change to be found is the presence of a large excess of iron in the liver. 4. This condition of the liver serves at once to distinguish pernicious anæmia post-mortem from all varieties of symptomatic anæmia, as also from the anæmia resulting from loss of blood. 5. The blood destruction characteristic of this form of anæmia differs both in its nature and its seats from that found in malaria, in paroxysmal hæmoglobinuria, and in other forms of hæmoglobinuria. 6. The view can no longer be held that the occurrence of hæmoglobinuria simply depends on the quantity of hæmoglobin set free. 7. On the contrary, the seat of the destruction and the form assumed by the hæmoglobin on being set free are important conditions regulating the presence or absence of hæmoglobinuria in any case in which an excessive disintegration of corpuscles has occurred. 8. In paroxysmal hæmoglobinuria the disintegration of corpuscles occurs in the general circulation, and is due to a rapid dissolution of the red corpuscles. 9. In pernicious anæmia the seat of disintegration is chiefly the portal circulation, more especially that portion of it contained within the spleen and the liver, and the destruction is effected by the action of certain poisonous agents, probably of a cadaveric nature, absorbed from the intestinal tract.

THE PATHOLOGY OF RECURRENT FEVER.

After comparing the epidemic observed by himself in 1885–6 with those reported by other writers, PUSCHKAREFF (Virchow's *Archiv*, cxiii. 421) gives the results of his studies on the pathological anatomy of the disease, made on the organs of thirty individuals.

By comparison of different specimens it was possible to follow the affection through all its different stages; a thing not previously accomplished. The organs examined were the spleen, liver, kidneys, heart, brain, and marrow of the bones. Considering the microscopic changes in the spleen and liver—the organs chiefly affected—we find at the *height of the first attack* a deposition of lymphoid elements in the Malpighian corpuscles of the spleen, as well as in foci in its pulp. In the liver there is a moderate dilatation of the intralobular capillaries and a decided parenchymatous change of the endothelium lining them, together with an accumulation of fat globules. The capillaries are further filled with red and white blood cells, among which are scattered large, faintly granular elements, probably coming out of the spleen. There is also a parenchymatous degeneration of the liver cells.

In the *first apyrexia* there is a retrograde metamorphosis of the lymphoid elements in the spleen, with the appearance in the pulp of a close network of thick, shining fibres. In the liver, the cells and the capillaries, with their endothelium and contents, return gradually to their normal condition.

At the *height of the second attack* there is another deposition of lymphoid elements in other Malpighian bodies and in foci in parts of the pulp not before affected, continuance of the retrogressive changes in the former foci of disease, and the appearance in the pulp of large, multinuclear elements, especially along the venous sinuses. In the liver there is a fresh and much more decided dilatation and parenchymatous degeneration of the capillaries. The large splenic elements appear in the hepatic capillaries in greater numbers, but very little blood is to be found in them. The endothelium of the capillaries is less well marked, and fat globules are almost absent. There is again a parenchymatous degeneration of the liver cells.

In the *second apyrexia* retrogressive change begins in the new foci in the spleen and goes on in the old, while the liver as before returns to its normal condition.

In the *third attack* fresh spots in the spleen are involved, while the retrograde changes proceed in those previously involved, and there is a still more marked development of the large multinuclear elements in the pulp. In the liver there is an enormous dilatation of the capillaries; the changes of their endothelium and contents being similar to those of the second attack, except that no trace of fat globules is to be found.

In the *third apyrexia* the spleen behaves as in the second, and the liver tissues again return to the normal condition.

In general, we see that in recurrent fever there is a parenchymatous degeneration of the cells of the organs and of the epithelium of their bloodvessels, which in the majority of cases does not reach that stage which forbids complete recovery. In some cases, however, permanent alterations remain; such as fatty degeneration of the heart muscle, and changes of the connective tissue in the liver, spleen, and kidneys. The author agrees entirely with those writers who do not distinguish between bilious typhoid and recurrent fevers.

PORENCEPHALUS.

AUDRY (*Revue de Médecine*, Nos. 6 and 7, 1888) has collected from the literature 100 cases and adds 3 of his own. An exhaustive analysis is given. Of 90 cases, with full details, the defect was bilateral in 32; the left hemisphere was affected in 38 and the right in 20. In 62 cases the cavities or spaces communicated with the ventricle. The condition may result from a variety of causes, acting usually during fœtal life; such as arrest of development, extreme hydrocephalus, embolism, hemorrhage, encephalitis, or profound anæmia of the hemispheres.

The symptoms are varied. In 68 cases there was hemiplegia, in some cases the paralysis was general. This bears out the importance of this condition in the cerebral palsies of children, as shown above, in the analysis by Osler of 90 autopsies in infantile hemiplegia. Idiocy and imbecility are very common sequences. Of 57 cases, with full information as to mental condition, 30 were complete idiots, 12 imbecile, and 15 with fair intelligence.

DYSTROPHIA MUSCULARIS PROGRESSIVA.

LIMBECK (*Fortschritte der Med.*, 1888, 765, from *Zeitschr. f. Heilkunde*, B. ix.) reports three instances of the disease, of the hereditary type of Leyden, especially interesting because a microscopical examination of a portion of excised muscle was made in the early stages of the disease. The patients were two sisters, in whom weakness and atrophy appeared in the flexors of the hip and extensors of the back. The portion of excised muscle (from the erector trunci) showed no increase of the perimysium externum or internum, or of the muscle nuclei. In a few places there was a slight increase of connective tissue, with a formation of fat, apparently at the expense of the contractile substance. The progressive changes in the muscular fibres were much as follows: there developed suddenly in some spot a rounded swelling, with a disappearance of the striation of the muscle, which took only a diffuse stain when treated with dyes (Coagulation). This change gradually extended to the whole fibre, and the sarcolemma could then be seen distinctly outlined and with nuclei, but filled only with a homogeneous, shining substance, which could be stained only diffusely, and which exhibited only here and there evidences of transverse striation.

NEURITIS FASCIANS.

EICHHORST (Virchow's *Archiv*, B. cxii. 237) reports the case of a drunkard who, six weeks before death, developed paralysis, rapid atrophy, and great tenderness of the lower extremities and later of the muscles of the arm supplied by the radial nerve. The skin was anæsthetic and the tendon reflexes abolished. The autopsy revealed no change of the spinal cord, except a few small recent hemorrhages in the dorsal region. The peripheral nerve trunks were much atrophied and contained but few healthy fibres, which were separated by bright, circularly shaped structures, the remains of greatly atrophied fibres. The endo-, peri-, and epineurium of the nerve-trunks were unaffected.

The peripheral branches were even more extremely atrophied than the trunks, and differed from them in that there was a decided increase of the endo- and peri-neural connective tissue; the thickened connective tissue lamellæ extending between the primitive muscular fibrillæ, and in part surrounding them and producing their atrophy by pressure. On account of this peculiar condition, which the author has not before seen in alcoholic neuritis, he applies to the affection the adjective " fascians."

PHENACETIN IN MIGRAINE.

RABUSKE (*Deutsch. med. Wochenschr.*, 1888, 37, 767) had under his care a case of hemicrania in a woman who had been subject to the disease for years. The attacks occurred every morning and lasted until evening, when they disappeared, attended by chilliness, langour, and paleness of the face. The headache was so severe that life became a burden. Many forms of treatmen had been tried in vain, including the use of antipyrine and antifebrin, and the disease was only growing worse. Finally the writer gave phenacetin in doses of half a gramme, morning and evening. After six such doses the attacks disappeared without unpleasant symptoms.

MYXŒDEMA.

J. CAMPBELL (*Montreal Med. Journ.*, October, 1888, 256) reports an anomalous case of myxœdema. There was a swollen appearance; the skin was waxy, thickened over the whole body, and resilient. Paræsthesia was well marked; the thyroid gland could not be discovered; there was decided slowness of intellect; the urine contained no albumen. The case was anomalous in that there was present a ravenous appetite. There were hungry spells every two hours, when profuse perspiration would suddenly break out, but would as suddenly disappear when the patient took nourishment. If she did not take food when hungry, a sense of weakness came on with trembling and inability to sit up in bed. She slept soundly, but awakened every two hours; if she slept longer than this time she awakened hungry and weak, and with the trembling mentioned, all of which disappeared after taking nourishment.

THE THERAPY OF CONVALESCENCE FROM THE MORPHIA AND COCAINE HABITS.

Under this title LEVINSTEIN (*Deutsch. med. Wochenschr.*, 1888, 35, 715) would describe the treatment of that period beginning with the time when the symptoms caused by the withdrawal of morphia or cocaine begin to disappear, and lasting long after complete recovery has apparently taking place. Were more attention given to the patient during this stage of apparent health, fewer relapses would take place. It is very necessary to impress on the patient the dreadful consequences of a relapse into the old habits, and in like manner to teach him that permanent cure must be through the exercise of his own will. It is a notable fact, too, that when several persons, under treatment for the morphia habit, are together in an institution for the cure of these patients, they are very apt to associate with one another, to talk freely of their affection, and often to combine to deceive the physician in charge. This association is to be carefully avoided, for there is nothing more ruinous to the recovery of the lost will-power, than to allow the thoughts of conversation to run on the subject of morphia. The whole therapy of the convalescence shortly after the withdrawal of morphia or cocaine may be summed up in careful oversight of the patient, strict avoidance of alcohol in an institution for the purpose, and the avoidance of all unpleasant psychic impressions. While in the institution no friends or relatives should be allowed to stay with the patient, since they are not under the entire control of the director. When, however, the patient leaves, after six or eight weeks a desire for occupation should be encouraged under the constant supervision and presence of a near relative, an intimate friend, or a physician. This supervision should be both by day and night, and should last at least a year.

BASEDOW'S DISEASE.

A. HUBER (*Deutsch.,med. Wochenschr.*, 1888, 36, 729) reports an interesting case of Basedow's disease in a woman of twenty years of age. After taking cold four years before there had developed a peculiar spasm of the left arm with a tremor and progressive weakness and emaciation of the member, especially of the hand. Not until after three years did the thyroid gland decidedly enlarge, and the eye become prominent. Still later, tremor of the legs appeared. At the time of examination there were struma, exophthalmus, rapid cardiac action, slight fever, general psychic excitement, left sided hemianæsthesia, and marked atrophy and paralysis in certain muscles of the left arm. The author omits the discussion of the three cardinal symptoms of the disease, but quotes largely the opinions of various writers concerning the others.

He believes that in this case the changes in the left arm and those beginning elsewhere were certainly of central origin, probably identical with those of progressive muscular atrophy. He believes, too, that Basedow's disease may be of central origin, though its pathogenesis is by no means certain.

THE INFLUENCE OF THE VAPORS OF HYDROFLUORIC ACID ON TUBERCLE BACILLI.

In connection with the paper of Gager, reported in THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES for October, 1888, it is well to notice the results of the experiments of GRANCHER and CHAUTARD, quoted in the *Centralblatt für klinische Medicin*, 1888, 39, 708. Inhalations of the acid were given to animals which had received intra-venous injections of tubercle virus; but it was found that those treated in this way died as soon as those which did not receive inhalations. The influence of the acid on the growth of the bacilli was also tried, and such a strength of the vapor admitted that the walls of the culture glass were corroded without killing or even entirely destroying the virulence of the microbes. Still, their virulence was evidently weakened, for an animal inoculated with the microbes thus treated lived for two months (and was then killed and found tubercular), while those in which bacilli had been used, which had not been exposed to the action of the acid, died in fourteen to seventeen days. The authors conclude, accordingly, that the idea of killing the bacilli within the human body by the inhalation of hydrofluoric acid cannot be entertained, but the possibility of weakening, or perhaps even destroying their virulence, must be admitted.

THE TREATMENT OF PHTHISIS WITH CALOMEL.

A. DOCHMANN (*Therap. Monatshef.*, 415, Sept. 1888), after reviewing the literature pertaining to the employment of mercury in phthisis, says that in his experience calomel has a rapidly favorable action in the ordinary forms of anæmia, even in cases in which iron has been without effect. It increases the appetite, removes habitual constipation, and regulates menstruation persistently delayed. Then there is a class of cases in which the anæmia is the result of an already existing phthisical dyscrasia. As is well known, iron in these cases is entirely without benefit, and even sometimes injures by disturbing digestion. Pulmonary affections, so slight as to be overlooked, often present such symptoms, with disturbance of the general nutrition. As the disease advances a slight fever appears, with a slight dry or mucous cough, and, finally, objective symptoms become evident. In such cases the treatment with calomel through two or three months is followed by the best results; appetite increases, cough and fever diminish or even disappear, and the night-sweats cease. The author reports in full two cases illustrative of those treated by this plan; both of them showing the excellent action of calomel in this disease. In just what way the drug influences phthisis favorably is not known, nor are we even certain in what way it is rendered soluble and absorbed into the system. It is superior to other forms of mercury in that it prevents processes of decomposition in the intestinal canal, without any injurious action on the digestive ferments. How mercury acts on metabolism is not understood, but it has been proved by various observers that small doses do not at least interfere with it; it seems probable that it has a specific action on the tuberculous poison; and its power in hindering inflammation has long been known. The author administers the drug in doses of about one-fifth of a grain in pills. On the first day the patient takes six doses of two pills each; on the second day five doses; on the third day four doses, and from the fourth day onward two pills three times a day, through the whole period of treatment. Every five or six days the administration of the medicine is stopped for two or three days. With every increase of fever the dose is raised to twelve or fourteen pills a day. Attention to hygiene and nourishment is, of course, important, and for the latter purpose the employment of koumiss is a valuable aid.

G. MARTELL (*Prag. med. Wochenschr.*, No. 25, 1888) has for three years been using calomel in tubercular processes, and has learned to consider it the best specific antiseptic for them, while under proper precautions no unpleasant consequences follow its employment. He has had the most favorable results with it in tubercular diseases. In the external form it may be used as a powder applied directly to the parts, while, when the lungs are involved, it may be either internally or topically by inhalation.

CREASOTE IN THE FORM OF MINERAL WATER IN TUBERCULOSIS.

J. ROSENTHAL (*Berl. klin. Wochenschrift*, 32, 640, 667, 1888) speaks of the change in the views of physicians which has occurred in later years, concerning the treatment of the infectious diseases. Either attention is given to the rendering of the organism resistant against the action of microbes which have entered it, or antiseptic substances are used which shall directly injure them, or, at least, render the tissues in which they have settled less fit for their nourishment and growth. The author reviews some of the various methods of treatment which have been employed for the cure of phthisis, and shows what negative results have attended them. There is, indeed, scarcely any medical substance which has not been tried for it. He believes that, in spite of these facts, the only manner in which we can hope successfully to combat the disease is by the way of antisepsis. For this purpose he uses creasote; a substance not new, and which has been often tried and found of service in phthisis, but whose administration, in the form in which he gives it, has not before been recommended. He details at considerable length the opinions of former writers for and against the value of creasote in phthisis, and relates theexperiments of Koch, which proved that in a dilution of 1 in 2000 it prevented the growth of tubercle bacilli on culture media, and in a dilution of 1 in 4000 greatly interfered with it. Basing his opinion on this, Guttmann claimed that to prevent the growth of tubercle bacilli in the organism, at least enough creasote must be given that there shall be a dilution of 1 in 4000 of it in the blood, and that to maintain this quantity there would be required an amount much too great for therapeutic purposes.

Rosenthal has made a great number of experiments on thirty-two varieties of microörganisms, using a one per cent. carbonic-acid-creasote-water in such a quantity that the culture medium contained 1 in 2000 of creasote. The results showed that with this strength there was either no growth or but very slight growth of the microbes. Further experiment proved that creasote in weak dilution will not only hinder the growth of the microbes, but will actually kill them. The objection raised by Guttmann was next met by showing that sufficient carbonated creasote water could be given hypodermatically to a rabbit, to make a dilution of 1 in 4000 in its blood, without producing any disturbance of general nutrition.

The internal administration of creasote in carbonic acid water is especially to be recommended, because it renders more agreeable a drug unpleasant to the taste, in the form of mineral water it acts many times more powerfully, and carbonated water itself has a favorable action on expectoration and on digestion. That creasote may have a favorable influence on the phthisical process, it is necessary that it be administered throughout a long period of time. Cases in which there is constant or frequent febrile action, or in which the bacilli in the sputum are very abundant, are less fitted for treatment with it, but even here it may be of benefit. It is especially valuable when commenced early in the initial apex-catarrh. The good effects of the creasote water begin to appear in the first few weeks, and consist in increase of appetite, diminution of expectoration, disappearance of cough, of dyspnœa, and of pain in the breast, and in increase of weight. Those patients who can visit health resorts should add the use of creasote to their hygienic treatment. Carbonated creasote water should be prepared of such a strength that each litre contains 0.6 to 1.2 grammes of creasote and 30 grammes of cognac. Of this an amount equalling 0.1 gramme creasote should be taken on the first day, and the dose gradually increased until 0.8 gramme is taken daily.

GLYCERINE IN CONSTIPATION.

GERSTACKER (*Therap. Monatsschr.*, 425, 1888) speaks of the actual value which Oidtmann's purgatif possessed, and of the discovery by Anacker that injections of glycerine had equally good effects. He has himself repeatedly given glycerine in this way with success, and often in cases in which large aqueous injections had been unavailing. By attaching a rubber tube one-half a metre long to the nozzle of the small syringe used for the enema, all inconvenience is avoided, and the patient can readily use enemata unassisted while lying on the back. Careful observations were made on fifty-five cases. In one instance the evacuation of the bowels did not occur for six hours; the average time required was eight and a half minutes, and the shortest was two minutes after the injection. Forty-five times the evacuation was copious; five times scanty. Usually the stool was semi-liquid; eleven times hard. Four times there were repeated evacuations. Careful interrogation of the patients never revealed the presence of any discomfort in the rectum after the enema; and only three patients experienced rumbling or pain in the abdomen between the injection and the evacuation.

GLOMERULAR NEPHRITIS.

After reporting some cases of glomerular nephritis with microscopical studies, and discussing at length the nature of the disease, OBRZUT (*Rev. de Méd.*, 689, 1888) concludes that in the period of convalescence from scarlatina, there is a nephritis localized in the glomerules. It is at least probable, though difficult to prove, that this is due to microörganisms leaving the system through the kidneys. His experience has not been sufficiently extended to allow him to determine whether it develops after other infectious diseases. It is certainly, however, a very common affection. The first step in the process is of an inflammatory nature, and consists in hyperæmia, and the migration of leucocytes into the intercapillary interstices, and the formation of perivascular and intravascular connective tissue. The epithelium covering the tuft proliferates and desquamates, falling into the cavity of the capsule, and takes part with the red and white blood cells in the formation of fibrin (fibrinous glomerular nephritis).

The inflammation of the internal surface of the capsule has no greater import than that of the epithelium covering the tuft, except that the former may alone constitute a glomerular nephritis and bring about the destruction of the glomerule. Judging from his own cases, he deems it improbable that all cases of acute nephritis must necessarily be complicated or preceded by inflammation of the glomerule. The product of the inflammation of the capsule of Bowman or of the vascular tuft does not differ from that of any other sort of inflammation; but consists of a new-formed connective tissue, which often undergoes hyaline transformation.

SURGERY.

UNDER THE CHARGE OF

J. WILLIAM WHITE, M.D.,

SURGEON TO THE PHILADELPHIA AND GERMAN HOSPITALS; CLINICAL PROFESSOR OF GENITO-URINARY SURGERY IN THE UNIVERSITY OF PENNSYLVANIA.

THE TREATMENT OF WOUNDS WITHOUT DRAINAGE.

Recognizing the desirability of avoiding in all possible ways irritation and disturbance of wounds, RYDYGIER (*Archiv für klinische Chirurgie*, Bd. xxxvii., 1888) has treated forty serious cases without drainage by the following method:

1st. He selected only such wounds as promised to heal by first intention, those in which no portion of diseased tissue was left behind.

2d. Thorough disinfection was practised *before* the operation, during which irrigation was used very sparingly; the stitches were applied loosely.

3d. Several layers of iodoform or sublimate gauze, wrung out of a 1 : 1000 sublimate solution, were laid upon the wound; over this a loose wad of gauze or cotton; then layers of dry sublimate gauze and cotton and an antiseptic bandage.

His cases included resections of large joints, arthrectomies, amputations, ligatures of arteries, a Wladimiroff-Mikulicz operation, etc.

In the majority of them he obtained union by first intention. In eight there was failure to do this, but no serious accident.